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14. ABSTRACT

Since the fall of the Iron Curtain and subsequent governance vacuum, the globe has seen more instability than any time in recent history. In this environment, multiple crises have escalated and diffused through spatial, temporal and population networks, like a contagion. Many times a crisis in one dimension, like population, may bleed into other dimensions such as the social, economic or health realms. Worse yet, these crises can escalate and lead to regional contagion by crossing borders. Evolving to this new world order, the U.S. national strategy and joint doctrine outline a need for conflict prediction and prevention along with interagency cooperation. Therefore, the operational commander must understand and anticipate the health, social, economic, and population interrelations, contagion and spillover effects of crisis. Using a simple contagion model developed from the health community, this work shows how a theater commander, the interagency and regional partners can assess, predict and possibly prevent crisis contagion, averting regional escalation. The model and methodology is applied to U.S. Southern Command, and uses Argentina, specifically, as a case study.

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REGIONAL CONTAGION:

SOCIAL, ECONOMIC, HEALTH AND POPULATION CRISIS DIFFUSION

by

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A paper submitted to the Faculty of the Naval War College in partial satisfaction of the requirements of the Department of Joint Military Operations.

The contents of this paper reflect my own personal views and are not necessarily endorsed by the Naval War College, the Department of the Navy or the Department of the Air Force.

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ABSTRACT

Regional Contagion: Social, Economic, Health and Population Crisis Diffusion

Since the fall of the Iron Curtain and subsequent governance vacuum, the globe has seen more instability than any time in recent history. In this environment, multiple crises have escalated and diffused through spatial, temporal and population networks, like a contagion. Many times a crisis in one dimension, like population, may bleed into other dimensions such as the social, economic or health realms. Worse yet, these crises can escalate and lead to regional contagion by crossing borders. Evolving to this new world order, U.S. national strategy and joint doctrine outline a need for conflict prediction and prevention along with interagency cooperation. Therefore, the operational commander must understand and anticipate the health, social, economic, and population interrelations, contagion and spillover effects of crisis. Using a simple contagion model developed from the health community, this work shows how a theater commander, the interagency and regional partners can assess, predict and possibly prevent crisis contagion, averting regional escalation. The model and methodology is applied to U.S. Southern Command, and uses Argentina, specifically, as a case study.

INTRODUCTION and THESIS

Since the fall of the Iron Curtain and subsequent governance vacuum, the globe has seen more instability than any time in recent history. Overlaid upon this issue is the emergence of resilient non-state actors and fledgling governments that are expanding into ever more interdependent economic, information and social markets. Thus, state crisis and escalation has pronounced spillover effects, diffusing within regions and across the globe.

Responding to the evolving threat environment, the United States through its operational combatant commands has taken Sun Tzu's famous dictum to heart: "Those skilled in war subdue the enemy's army without battle";[1] to this end, the National Security Strategy (NSS) outlines a need for conflict prevention where "… early measures can prevent problems from becoming crises and crises from becoming wars."[2] Further, the military can act to harmonize preventive efforts to build a long-term, stable peace.

In the current setting and throughout history, crisis has escalated and diffused through spatial, temporal and population networks, like a contagion. With globalization and U.S. involvement abroad, the operational commander must understand and anticipate the health, social, economic, and population interrelations, contagion and spillover effects of crisis. Using an operational perspective, this work will explore how a theater commander can predict and possibly prevent contagion to avert crisis escalation and regional spillover.

BACKGROUND

An infant joint doctrine also views the regional and multidimensional nature of the global environment. The *Military Support to Stabilization, Security, Transition, and Reconstruction Operations Joint Operating Concept* (SSTR) states that:

> "… drivers of instability and conflict tend to reinforce one another, creating a degenerating cycle,… these developments can eventually destabilize the interlinked political, economic and social systems that make up the fabric of society."[3]

Consequently, joint focus is evolving from strictly deterrence to flexible, assurance postures and structures. The doctrine further recognizes the importance and expanded roles of the force as multifunctional, providing six specific "lines of operation" (LOO).

Under the SSTR joint concept, each LOO should help "… a severely stressed government avoid failure or recover from a devastating disaster,…or…internal collapse…"[4] The six LOOs are: establish theater security, deliver humanitarian assistance, reconstruct infrastructure, support economic development, establish/promote governance and conduct information operations. This being said, every geographic command must be poised to predict and counter crisis escalation through SSTR planning.

Since, to date, very little research has been performed on Latin and South America in this realm, this work will examine the U.S. Southern Command (SOUTHCOM) area of operations. Plus, with a common culture, South America is prime for analysis. As forwarded by E.T. Hall in his groundbreaking work "The Hidden Dimension," cultures view time and space in different and distinct manners that cannot be transposed from one culture or region to another.[5] South America, with its shared colonization history and vibrant similarity, can be uniformly analyzed in a regional manner.

Before analysis, any operational commander must understand crisis and how it escalates. This first step would also involve developing a model to decouple crisis into its fundamental ***dimensions***, being health, social, economic and population, among others. In addition, a model would have to not only explain crisis expansion, but contagion across dimensions and within the region. The next step would involve risk assessment to see which countries are at possible risk of crisis escalation. Once risk is assessed, the model can be applied to the country. As a last step, the operational commander must apply operational art

to de-accelerate crisis and mitigate risk along all possible dimensions. In summary, this work will do just that: 1) crisis and model development, 2) assessment and model application, and 3) prevention formulation for SOUTHCOM.

DISCUSSION: Crisis Escalation and Contagion Models

Leaping to the first step, modern conflict models have established escalating phases. Many models exist, but the simplest involve three phases, or stages, denoted as structural tension, escalation and crisis.[6] Under this construct, crisis cultivates from root causes and escalates to subsequent phases from accelerators and trigger events. Accelerators may include low-level violence and repressive governmental policies; whereas, trigger events act to catalyze immediate civic uprisings. Trigger events may include protests, natural disasters and high-level violence.[7]

In the aforementioned crisis escalation model, the importance rests on identifying and quenching accelerators while mitigating trigger events. Research has shown that many factors (ie. poor resource governance, inadequate health systems, poverty and economic dependence) can accelerate crisis and that positive outside intervention can dampen crisis development.[8] From a preventive standpoint, many thoughts exist on responses to help de-accelerate conflict, varying between military, diplomatic, development and governance methods. Otherwise, crisis escalation can lead to state failure and regional spillover.

Before developing a contagion model, let's perform a risk assessment on the SOUTHCOM area of operations (AO). Risk assessment and crisis mitigation can be achieved through some basic fundamental analysis and actions. Operational analysis starts by recognizing known and proven aspects of crisis within the theater. Of hundreds of variables, several economic, social, population and health variables combine and show strong correlation to crisis and state failure, a worst case scenario (Table 1, Appendix A). For state

failure, three overarching, multidimensional indicators stand out: openness to trade, infant mortality and democratic institutions.[9] Leveraging the escalation model and the aforementioned factors, one can semi-quantitatively identify countries lying on the verge of escalation. These include Argentina, Brazil, Bolivia, Colombia, Ecuador, Guatemala, Guyana, Honduras, Nicaragua, Paraguay and Venezuela (Table 1, Appendix A).[10,11,12]

Due to recent events, this work will use Argentina as a case study by applying a proposed contagion model. As shown in Table 1, Argentina is highly susceptible to crisis since the country is characterized with regressive democratic institutions, high corruption and issues with trade balances. In compilation, these statistics cause alarm and are proven out with the most recent protests. As no surprise, Argentina's economic crisis appears to be progressing and bleeding over into the population and social dimensions. Plus, regional neighbors have been impacted--Chile and Brazil specifically.[13,14]

Now that the first step is complete, the operational commander understands which countries are at risk. Next, a simple model can help decouple crisis into its primary dimensions. Decoupling can help an operational commanded visualize crisis expansion and contagion impacts across dimensions and the region. As mentioned by Robert Gurr and seen in our own history, crisis escalation has strong contagion aspects, spilling over boundaries and leading to regional destabilization through refugee or other cross border malignancies.[15] Current spillover effects already plague the United States and Latin/South America in the form of refugees, cross border criminal activity and illegal alien transport.

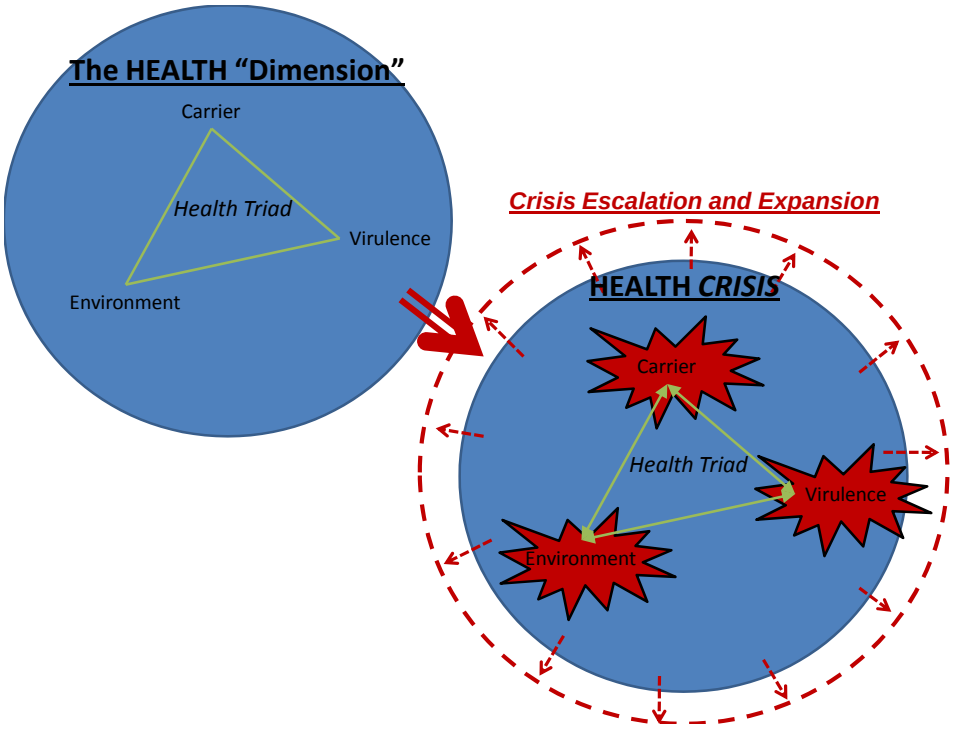
Exploring contagion constructs from other fields, one could examine and draw similarities between health contagion theory and social, economic and population contagion. From this multidimensional standpoint, a common contagion model may help explain,

predict and possibly prevent crisis escalation. Multidimensional analogies are especially relevant considering health, social, economic and population interdependences of the regional/global environment. As a common template, health contagion is the best starting point, an appropriate model and understood by most; everyone has experienced a common cold.

Health Contagion theory as a template

The health community views basic contagiousness as intuitively a function of: "…the people who transmit an infectious agent, the infectious agent itself, and the environment…"[16] Epidemics thus depend on the extent of each of these three interdependent functions, from here on referred to as: *contagion triad*. Time and time again, the actions of a few carriers, coupled with the virulence of the infection in a susceptible environment, ignite an epidemic. The 1918 flu pandemic and the current African HIV epidemic are ready examples of the interrelations and effects of each of the three functions.

Figure 1. Health Contagion Model Representation



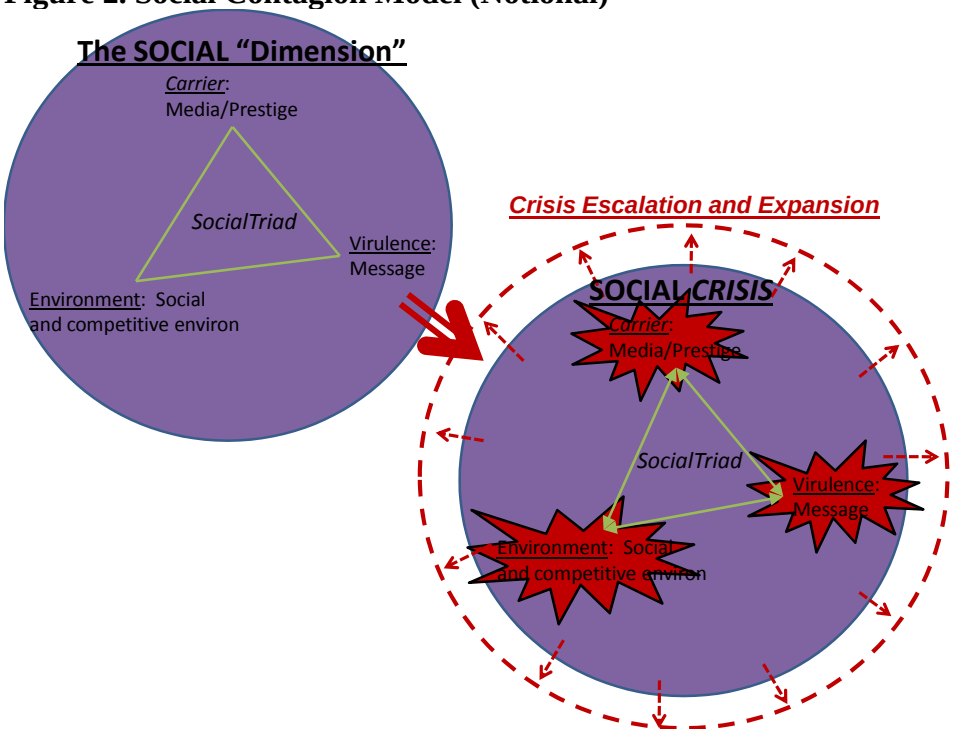
Under the triad model, one can visualize contagion functions and their effects. The model envisions the carrier, virulence and environment as distinct, but interdependent nodes. Figure 1 best shows how each component of the triad interlinks within the health dimension. Once the triad tips to an epidemic, the health dimension expands for spillover, possibly diffusing elsewhere. For simplicity and as commonality, the triad concept could help model contagion in the other three dimensions: social, economic and population.

Social Contagion

Beyond the health dimension, the social psychology profession understands that diffusion can lead to social contagion. Applying the health contagion model to the social dimension, one might form a contagion triad that is analogous to: prestige of the carrier or media (ie. "carrier"), the nature of the message (ie. "virulence"), and structure of the social network (ie. "environment"). Studies have shown the first function (ie. "carrier") as media sources and messenger prestige. The second function (ie. "virulence") hinges on the nature of the message and its impact. Most social psychologists realize that negative messages are more contagious than positive ones.[17] Besides the message, social contagion is lastly a function of the social environment (ie. "environment"), meaning spatial & temporal domains, community social networks and social competitiveness. Each plays an important part in contagion propagation. The interplay of the triad not only is seen in idea diffusion, but also through terrorist activities and cross border refugee migration. [18,19]

Again, this dimension can be viewed as a triad of three interdependent nodes. If the right conditions are met within the triad, a social crisis tips to create contagion. As seen historically, social contagion is especially powerful in regard to idea transfer (ie. current "green" movement). However, the opposite can be true, as previously alluded to with negative messages.

Figure 2. Social Contagion Model (Notional)



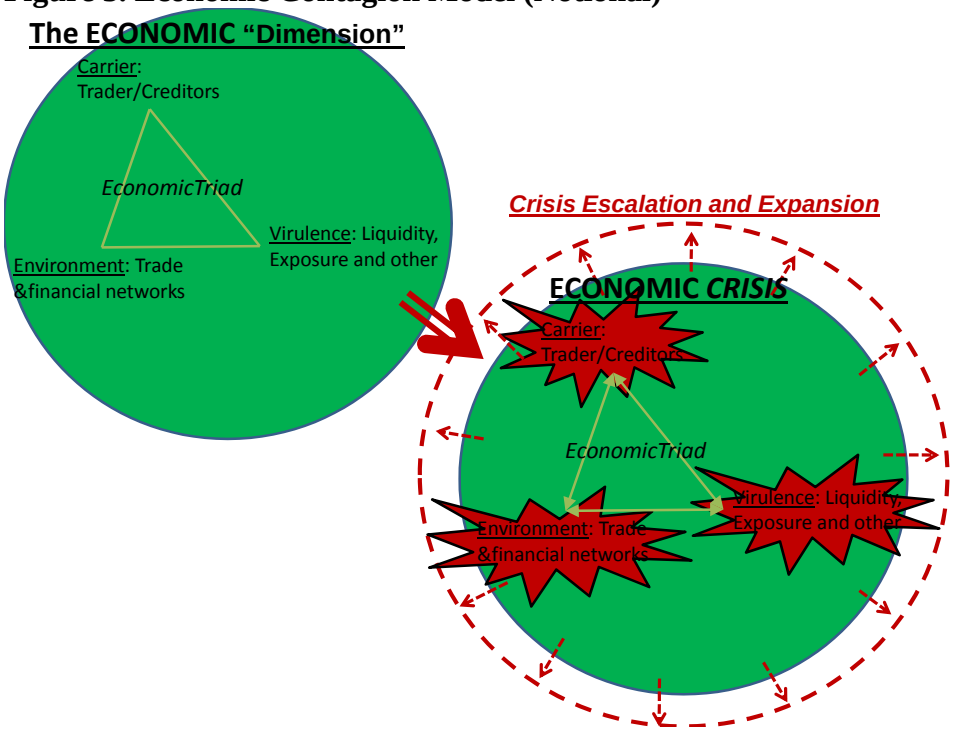
The most notorious examples of social epidemics are the ideologies behind Nazi Germany, terrorist extremists and genocides. Looking at Nazi Germany, the "carrier" node was composed of ideologues epitomized by Hitler and Nazi youth. The "virulence" of the message was especially contagious due to its negativity in context of the post-WWI German population's social attitudes and economic suffering. Lastly, the "environment" node was ripe considering Germany's spatial and temporal domains. These three nodes interplayed to expand into a social epidemic (Figure 2), spilling into the country's and region's population, health, and economic dimensions.

Economic Contagion

The economic sector has strong contagion attributes, too, which develop through trade and finance. As noted a century earlier, Mahan had already suggested economic contagion was linked to trade routes and their security, dictating "The necessity of a navy, in a restricted sense of the word, springs… from the existence of a peaceful shipping, and disappears with it."[20] Like the other two dimensions, a nodal triad of three functions can help

model economic strife and contagion. For the first component of the triad, one could imagine the individual and organizational traders and creditors as the "carriers." For the "virulence" component of the triad, one could imagine the extent of liquidity, exposure and financial panic. Lastly, the "environment" could equate to financial or trade networks.

Figure 3. Economic Contagion Model (Notional)



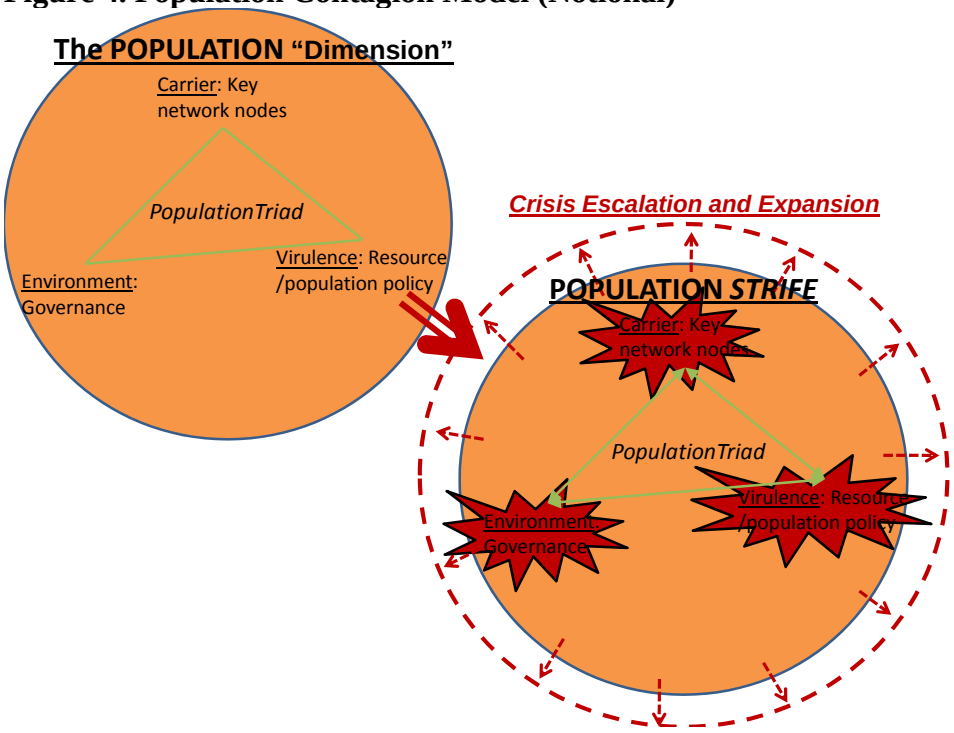
Each of these three triad components could combine as functions to stimulate regional or global financial contagion. Through this interdependence, economic contagion has increased by 25 percent over previous years. [21]

Figure 3 shows the possible triad construct for this dimension. Each triad node can interplay to cause strife, possibly expanding to contagion. The 1998 Brazilian crisis is a prime example. Resulting from Russian defaults, the crisis overflowed into Mexican and Chilean markets. Of more interest to our case study, financial activities in Argentina, concerning farming and energy economics, has especial potential for escalation and contagion. Already, Argentina's economics have impacted Brazil and Chile.[22]

Population Contagion

The last dimension concerns population strife. Like the social, economic and health dimensions, it also has classic links to crisis escalation. Using the triad model, one could draw analogies between the "carrier" as protest organizers, the "virulence" as resources-population policy, and the "environment" as governmental effectiveness (Figure 4). This population model could, accordingly, help explain population crisis expansion.

Figure 4. Population Contagion Model (Notional)



Population strife is well studied over the centuries ever since Malthus' 1798 "An Essay on the Population." Malthus started this field by tying population to resources, stating "the power of population is indefinitely greater than the power of the earth to produce subsistence for man."[23] Extensions of his theories assert population and/or resources play a significant role in population strife. A current example of population strife exploding into crisis is developments in Haiti. There, the three nodes of the triad have interplayed to create population-resource crisis (see figure 4).

ANALYSIS and FUTURE FRAMEWORK

In summation, contagion theories across dimensions can best be understood and compared through the triad model of carrier, virulence and environment. Table 2 shows each dimension and its respective triad.

Table 2. Contagion Parallels for Multiple Dimensions

Dimension	Health Triad	Social Triad	Economic Triad	Population Triad
Function 1	Carrier	Carrier: Media and messenger prestige	Carrier: Trade and finance nodes	Carrier: Organizers and crisis/terror organizations
Function 2	Virulence	Virulence: Potency, effectiveness, dominance, discernability and addictiveness	Virulence: Liquidity, exposure, other	Virulence: Phase, escalation accelerators and triggers
Function 3	Environment	Environment: Spatial & temporal networks (cohesion) and competitiveness (structural equivalence)	Environment: Markets and interdependence	Environment: Environment (living conditions and state policy), governance

Using the aforementioned as common ground, nodal links between the triad can be readily visualized, analyzed and evaluated for risk, prediction and prevention.

Figure 5. Multi-dimensional Contagion Model (Notional)

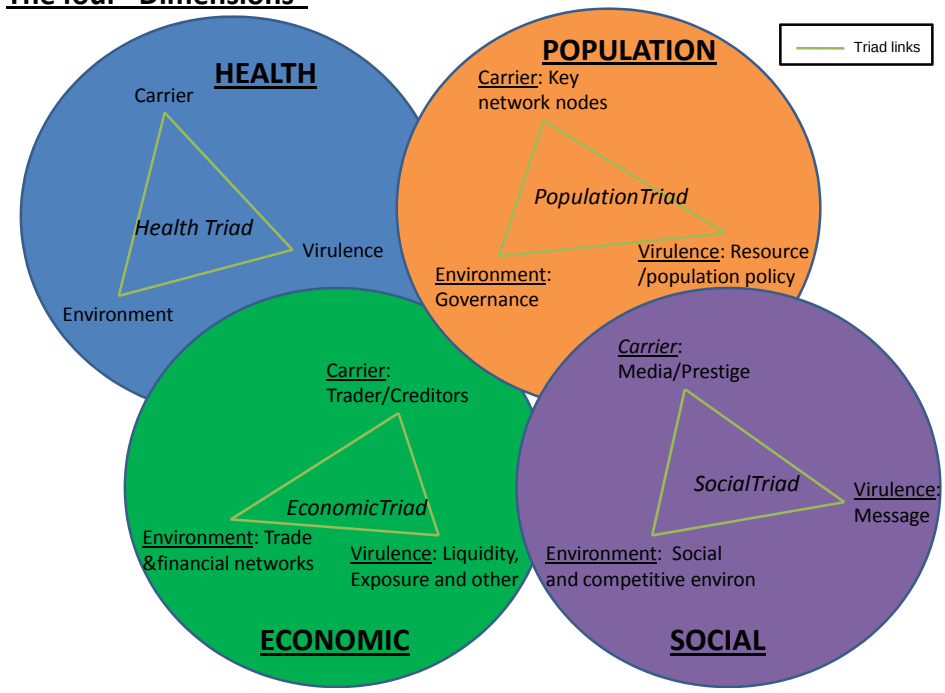


Figure 5 shows how overlap may occur across dimensions; later, the Argentina example will graphically display links. Even more striking is the subtle interdependence of the different dimensions: social, economic, health and population.

A string of historical examples exist that show the interrelated aspect of crisis across dimensions. Relevant illustrations are: terrorism effects upon regional economies;[24] terrorism venue trends tied to social, economic and population variables;[25] German unification impacts on migration which tie to economics and social psychology; and cross-border social, population and economic interdependence of the Colombian drug trade.

Focusing on prevention, the United States can inhibit the multidimensional nature of crisis and its contagion to better defend the homeland. In further support of the NSS, the United States can dissuade antagonistic behaviors and promote Latin and South American cooperation through an epistemic[26] community-type team (proposed below). Through epistemic pressure, Latin/South American partnership and SOUTHCOM mentorship, potential rogue and failing states can receive guidance and aid for their social, economic, health and population institutions. Therefore, regional stability gains are achieved by all and United States credibility is furthered, promoting improved cooperation.

Operational Prediction and Prevention Tool

For various reasons, the contagion model is especially relevant to the operational commander and regional theaters. First, any type of crisis and subsequent contagion analysis is culturally distinct, as mentioned earlier. Assuming Latin and South America has a fairly uniform culture due to its history, crisis and contagion analysis may be an especially powerful tool for the region. A second reason centers on the current and limited resource environment. With resources flowing to CENTCOM, operational commanders have limited budgets and must get the most from their current funds. Any better tools that focus efforts

can help with funding effectiveness and efficiencies. Third and stated earlier, the military is transitioning to more diverse roles and missions, accentuating prevention, theater security and stability operations. Thus, the operational command needs to understand crisis, disassembling it to fundamentals. Lastly, the proposed contagion model mirrors current center of gravity (COG), effects-based and nodal network-centric models as seen in joint doctrine.[27] The similar network concept coupled with common understanding can ease the operational commander and staff in communicating and understanding interrelations across dimensions in their operational AO. Therefore, the commander can better articulate the potential for country and/or regional risk, but, more importantly, use precious, limited resources to better de-accelerate crisis and trigger events.

Counterargument and Refutation

Nonetheless, skeptics counter that lack of country information may hinder analysis, traditional area specialists have a better understanding of the area, and crisis escalation is too complicated for a predictive model. In response to the first argument, much public information exists to aid analysis; the upcoming Argentine example demonstrates this fact. As for the second argument, contagion and spillover analysis augments traditional country specialists. This epistemic approach complements traditional country analysis, acting as a force multiplier and further stimulating the political willingness to act. As stated in an interview with a Latin and South American Foreign Area Officer, this capability and proposed construct would greatly augment and is distinct from current SOUTHCOM efforts, especially in its interagency, multinational, regional, NGO and IGO nature.[28]

Although Latin and South American crises and state failures are lower than in other parts of the world, conflict prediction from an international aspect outweighs reactionary crisis intervention. An easy comparison can be demonstrated between the UN Kosovo

campaign, costing $48B, versus maintaining a peacekeeping force, costing $10B, over the same four year period.[29] Beyond the costs, any regional crisis or failure of a South American partner can damage U.S. credibility, in light of current international views. Therefore, the benefits of prevention will usually outweigh the costs, whether political or monetary.

Still, some critics argue that prediction, let alone prevention, cannot be achieved through multidimensional analysis. Their contention centers on the past's failed predictions of agricultural crises.[30] Many predictions failed to materialize due to agricultural innovation, technological leaps and global trade expansion. These three factors among others have allowed countries to overcome agricultural crisis. As the enduring lesson, any analyst must deconstruct crisis down to root causes and consider its multidimensional nature. To this day, very little crosstalk among the social, population, economic and health fields exist except in the margins. A common contagion model, as proposed, has the potential to build commonalities and thus stimulate dialogue, common terminology and collaboration.

SOUTHCOM Example

Using follow-on methodology in Table 2 as a guide, one could analyze, deconstruct, and determine which factors are prevalent and contributing to Argentina's potential for crisis and contagion. With this analysis tool, SOUTHCOM could tailor a response to de-accelerate possible regional crisis escalation, improve Theater Security Cooperation (TSC) and, more importantly, measure success through long-term metrics. Of course, outside intervention towards any sovereign state is a delicate craft. Therefore, the following is a proposed idea.

RECOMMENDATIONS

Per National Security Presidential Directive 44, the Department of State (DoS) is the lead for any stabilization efforts, while the Department of Defense (DoD) provides a crucial supporting role. In this manner, a joint staff could develop a risk assessment and prediction

team composed of area experts. They would gather and compile data for crisis assessment and contagion analysis. Nonetheless, the most important part would center on a prevention cell. This cell would develop de-escalation methods for a target country or region.

Figure 6. Proposed Joint, Interagency and Multinational Team

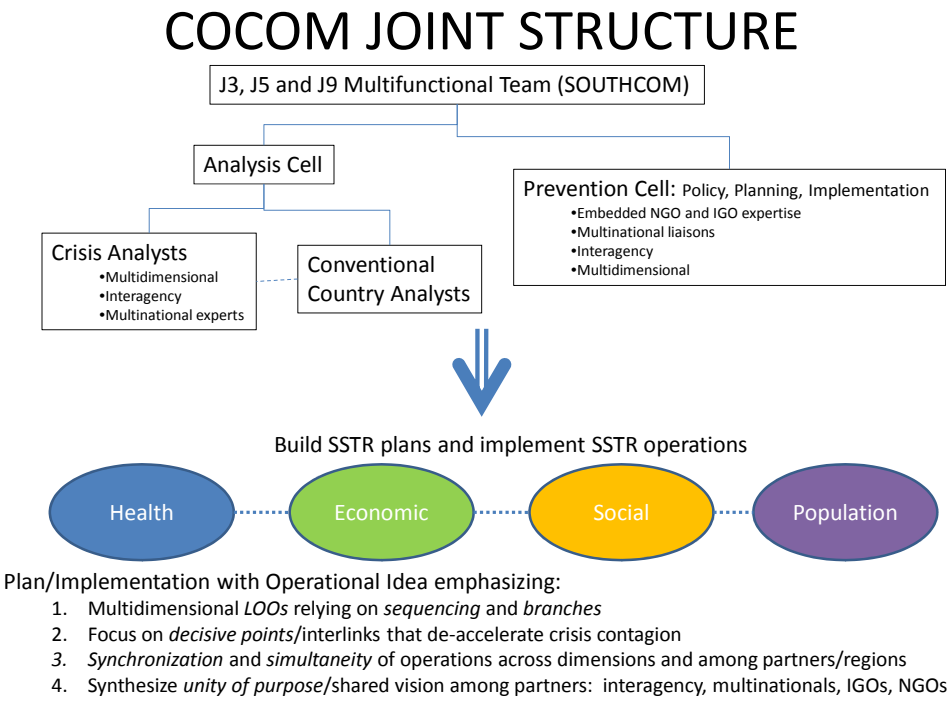


Figure 6 proposes a team structure composed of the three functions and integrated in SOUTHCOM. As shown in the diagram, the unit would rely heavily on interagency actors and liaise with the region.

Interagency support is essential in all four dimensions of contagion: health, social, population, and economic. As planned, each discipline could use the contagion model to examine risk, explore interrelations and develop methods to prevent crisis expansion or contagion. Much could be gained by Dept of Treasury's economists working side-by-side with DoS's social/population experts, CIA's social scientists and Dept of Health's pandemic experts. Under the proposed team, daily crosstalk could couple with DoD's mission oriented culture; the military's structured planning process could combine to be an effective tool.

Armed with common contagion models, as stated above, regional and multinational partners could articulate and implement a common vision, leveraging DoD, interagency, multinational, IGO and NGO resources toward crisis de-acceleration and long-term stability.

Similar to the interagency, the team would also integrate multinational and regional organizations (ie. Organization of American States – OAS, other NGOs and IGOs). Although a daunting task, DoS as a strong lead or co-lead can facilitate this thrust. Through the proposed team structure and contagion model, common terminology and vision will develop. The vision will thus help vector partner NGO and IGO efforts for the common good. The greatest achievement will involve the transformation from a traditional reactive stance to a more proactive preventive role. Of course, emergencies and natural disasters are inevitable, but strong partnership combined with proactive TSC and preventive measures will dampen potential contagion effects. In total, the team, using the contagion model, could proactively galvanize unity of purpose across organizations and the region.

The proposed multifunctional, multinational and interagency structure is important since the team should coordinate efforts with agencies such as traditional country teams, UN Dept of Political Affairs, Minorities at Risk Project, and USAID, among others. In addition, the joint staff is best suited to gather data, coordinate and plan via civil-military support.

Returning to the Argentine example, the team could analyze the different data on Argentina and tailor a response. Since Argentina has been identified as "at risk," one should use the contagion model to decouple risk into its component dimensions. Appendix D does just that, based on a cursory view of CIA country data, interviews[31] and current events. Here's a cursory result using a stoplight chart and a graphical depiction (Figure 7) of the same. See Appendix B for methodology.

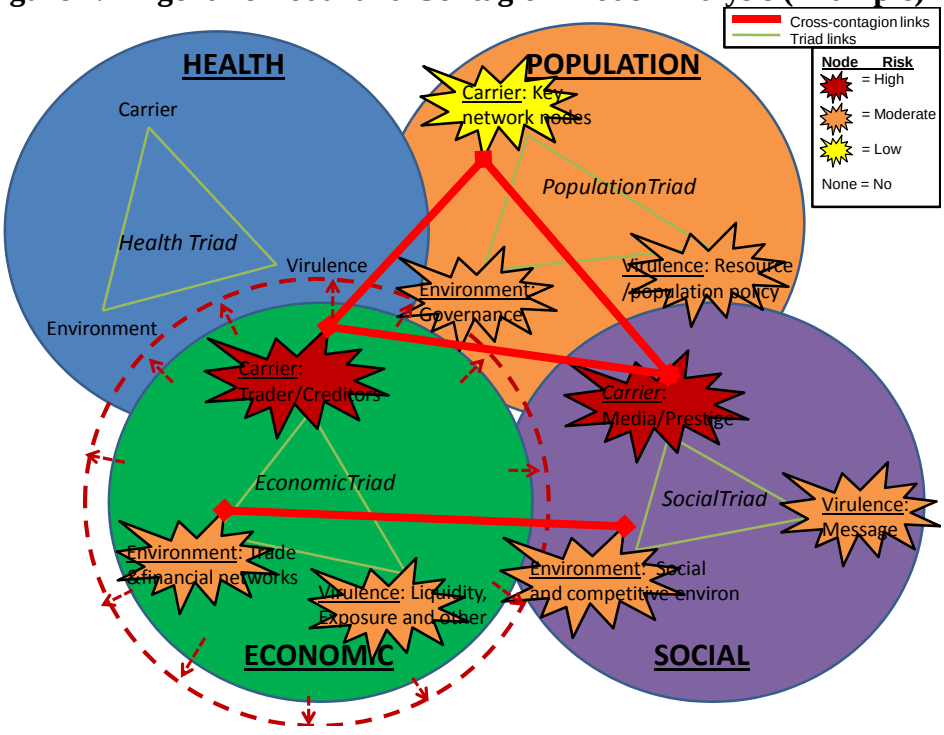
Table 3. Argentina Analysis of Contagion across Multiple Dimensions*

Dimension	Health Triad	Social Triad	Economic Triad	Population Triad
Function 1	Carrier	Media and messenger prestige	Trade and finance nodes	Organizers and crisis/terror organizations
Function 2	Virulence	Potency, effectiveness, dominance, discernability and addictiveness	Liquidity, exposure, other	Phase, escalation accelerators and triggers
Function 3	Environment	Spatial & temporal networks (cohesion) and competitiveness (structural equivalence)	Markets and interdependence	Governance (living conditions and state policy)

*Green as ***No Risk***, Yellow as ***Low Risk***, Orange as ***Moderate Risk***, and Red as ***High Risk***. See Appendix B for details.

Please note that the triad nodes are color coded, corresponding to Table 3's contagion risk assessment. In addition, the graph shows cross-dimensional links that represent possible contagion spillover risk (denoted with red lines) and economic crisis expansion.

Figure 7. Argentine Nodal and Contagion Model Analysis (Example)



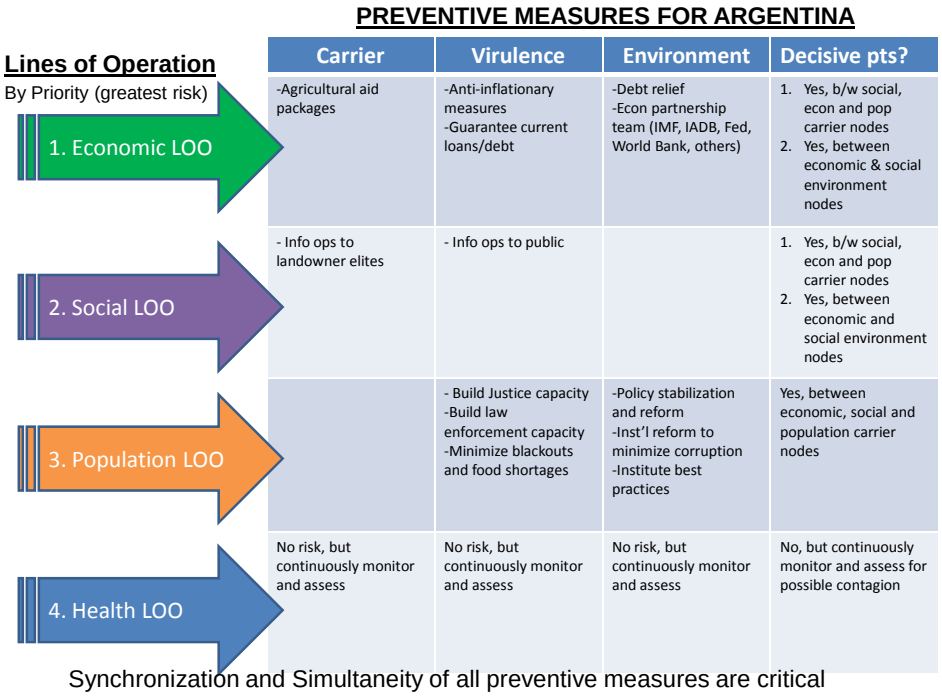
This simple model allows the operational commander to identify and target critical risk nodes, dimensions and contagion links (ie. critical vulnerabilities). Armed with this risk assessment, a commander and staff could articulate, leverage and coordinate national, multinational, NGO, and IGO support for proactive crisis prevention. If, however, Argentina

is reluctant to take advantage of U.S. efforts; multinationals, regional organizations, NGOs and IGOs can use this simple method to help Argentina while we attempt to stabilize potential contagion for willing partner nations--those that have strong contagion exposure from an Argentine crisis, like Brazil and Chile.

Drawing parallels to operational art, the commander could develop courses of action (COAs) along certain Lines of Operation (LOOs) that parallel the four dimensions--health, social, economic and population. As the highest risk dimension, an economic LOO for Argentina might involve sequenced actions with various branches, involving debt relief actions, loan guarantees, anti-inflationary measures and innovative agricultural aid packages. In addition, the team could facilitate a partnership with the World Bank, Int'l Monetary Fund, Inter-American Development Bank, our Fed Reserve and Argentina's central bank.

To dampen any possible social escalation, a social LOO might include an extensive information operation targeting the general public, but, more importantly, the landowning elite "carriers," a critical COG. Right now, Argentine's landowning elite is upset over the government's high subsidies on agricultural products. Shifting to a population LOO, a sequenced plan could involve branches in institutional and policy stabilization along with regional best practices (ie. Chile is a great benchmark). Plus, since the country is plagued with blackouts and food shortages, land and energy reform could go far to stabilize against potential population "virulence." As with Colombia, SOUTHCOM could also build Argentina's law enforcement and judicial capacity to thwart corruption. Figure 8 displays these possible LOOs and preventive actions across each triad.

Figure 8. LOOs for Argentina's Stabilization



Beyond these three critical LOOs, Figure 7 shows contagion interlinks between disciplines. Any operational commander should be especially concerned about these interlinks because they could cause cross-dimensional contagion. Drawing from operational art, one could view these interlinks as decisive points and incorporate an operational plan to sever or minimize their spillover potential.

Going back to figure 7, the social, economic and population arenas have interlinks between the "carrier" nodes. To sever the interlink and control this decisive point, a strong information operation and economic package would be appropriate for these "carriers" links. There also exists a contagion interlink between the economic and social "environment" nodes. The economic and social "environment" interlink could be targeted through careful analysis and risk reduction techniques (ie. affecting spatial and temporal components). Thus, the operational commander could control this decisive link/point, too.

Besides a focus on LOOs and decisive points, an operational idea for any Argentine SSTR preventive plan should also include synchronization of organizations and simultaneity of efforts. NGO, IGO and multinational efforts should synchronize with civil-military operations and interagency activities. With the proposed team previously outlined in Figure 6, synchronization is gained through the matrixed structure and diversity of the team. Besides synchronization, simultaneity across dimensions is critical to success in Argentina or any crisis de-escalation efforts. Since simultaneity targets all dimensions at once, no dimension is left to escalate to crisis. If, however, only the economic dimension is targeted for prevention, the operational commander risks crisis escalation in another dimension. Therefore, simultaneous efforts across all dimensions, targeting the aforementioned decisive points, should act to culminate crisis escalation, averting contagion. If the operational idea fails to include simultaneous operations, Argentina could see crisis in several dimensions. Both simultaneity and synchronization are key to any preventative operations.

CONCLUSION

In conclusion, future work should expand the proposed qualitative model by quantifying relationships between the health, social, economic, and population dimensions of crisis and its contagion. Although beyond the scope of this work, a semi-empirical study to quantify these relationships could substantially aid the prevention community. Likewise, other aspects of contagion are relevant, too. For instance, a contagion triad that explores political, military, and terror interrelations could provide some additional insights.

As shown, a sound risk assessment technique, contagion model and an integrated team can aid the operational commander in predicting and preventing crises. To start, crises are complex, but can potentially be assessed through several indicators. With this knowledge, the proposed contagion model can help a team build and implement preventive

plans for TSC, disaster preparedness or crisis escalation. Argentina was a relevant example of how the model can help focus LOOs; each can combine with a solid operational idea to possibly de-accelerate crisis. Lastly, the structure of the team is just as important. Only an integrated team composed of interagency, multinational and multifunctional actors can overcome traditional barriers and roadblocks.

With more vivid understanding, the operational commands can better anticipate, avert and prevent crisis and its contagion. Thus, the United States can effectively use its valuable resources to strengthen long-term peace. In this global environment, a prosperous, crisis-free world would benefit all future generations, promoting long-term prosperity.

ENDNOTES

[1] Sun Tzu, *The Art of War*, ed. and trans. by S. Griffith (New York: Oxford Press, 1971), p.79
[2] G.W. Bush, *National Security Strategy of the Untied States of America*, (Washington DC: The White House, Mar 2006), 16.
[3] U.S. Office of the Chairman of the Joint Chiefs of Staff, *Military Support to Stabilization, Security, Transition, and Reconstruction Operations Joint Operating Concept*, Version 2.0 (Washington, DC: CJCS, Dec 2006.), ii.
[4] Ibid, iii.
[5] E.T. Hall, *The Hidden Dimension* (Garden City, New York: Doubleday and Co., 1966).
[6] B. Harff, "Early Warning of Humanitarian Crises: Sequential Models and the Role of Accelerators," in *Preventive Measures: Building Risk Assessments and Crisis Early Warning Systems* (Lanham MD: Rowman & Littlefield, 1998), 70-78.
[7] The first phase, structural tension, is determined by background conditions. These root causes propagate tensions within a collective group. Example background conditions may include a long-term repression or resource pressures. The second phase of conflict, escalation, ignites from dynamic factors, otherwise known as accelerators. Accelerators disrupt the root cause conditions, leading to escalation. Example accelerators are minor violence, repressive gov't policies, resource misuse, or law enforcement inequalities by a state. The third phase is denoted by overt conflict, insurgency, civil war or martial law. This phase flaws from a trigger event such as assassinations, protests, disasters or major violence. J.L. Davies and T.R. Gurr, "Preventive Measures: An Overview," in *Preventive Measures: Building Risk Assessments and Crisis Early Warning Systems* (Lanham MD: Rowman & Littlefield, 1998), 4-5.
[8] S. Schmeidl and J.C. Jenkins, "Early Warning Indicators of Forced Migration," in *Preventive Measures: Building Risk Assessments and Crisis Early Warning Systems* (Lanham MD: Rowman & Littlefield, 1998), 56-69.
[9] D.C. Esty et al., "The State Failure Project: Early Warning Research for U.S. Foreign Policy Planning," in *Preventive Measures: Building Risk Assessments and Crisis Early Warning Systems* (Lanham MD: Rowman & Littlefield, 1998), 27-38.
[10] Central Intelligence Agency, "The World Factbook," https://www.cia.gov/library/publications/the-world-factbook/geos/, (accessed 12 April 2008).
[11] Caribbean Island countries were not analyzed in this study since they have their own dynamics (Appendix A).
[12] Consider Colombia as "at risk" since there exists an ongoing crisis. Interview with South American Foreign Area Officer, LTC Steve Brown, USA, conducted various times between Mar 2008 and Oct 2007.

[13] "Killing the Pampa's Golden Calf: Argentina's Taxes on Food Exports," and "The Kirchners v The Framers: Argentina," *The Economist*, 4 April 2008, 20, 49-50.
[14] Previous work forwarded contemporary one-dimensional crisis escalation assessment tool used in this section. R.J. Passinault, "Crisis Prevention and Policy in Southern Command: Malthusian Principles and Risk Assessment," Research Paper, (Newport, RI: U.S. Naval War College, National Security and Decision Making Department, 2007), 1-8.
[15] T.R. Gurr, *People Versus States: Minorities at Risk in the New Century* (Washington DC: US Inst of Peace, 2000), 55.
[16] M. Gladwell, *The Tipping Point: How Little Things Can Make a Big Difference* (New York: Little, Brown and Co., 2000), 18.
[17] Negative messages have more potency, dominance, effectiveness, and discernability than positive ones. P. Rozin and E.B. Royzman, "Negativity Bias, Negativity Dominance and Contagion," *Personality and Social Psychology Review* 5, no. 4 (2001), 296-320.
[18] In the social psychology discipline, these two factors are termed ***cohesion*** and ***structural equivalence***, respectfully.
[19] R.S. Burt, "Social Contagion and Innovation: Cohesion Versus Structural Equivalence," *The American Journal of Sociology* 92, no. 6 (May 1987), 1287-1335.
[20] A.T. Mahan, *The Influence of Sea Power Upon History, 1660-1783* (Boston: Little, Brown and Co., 1984), 26.
[21] F. Boissay, *Credit Chains and the Propogation of Financial Distress* Working Paper Series, No. 573 (European Central Bank: Jan 2006), 27.
[22] Crisis also has an addictive nature, where past crisis increase propensity for future crises. Y.S. Sakho, "Contagion and Firms' Internationalization in Latin America: Evidence from Mexico, Brazil, and Chile," in *World Bank Policy Research Working Paper*, no. 4076 (Dec 2006).
[23] T.R. Malthus, *An Essay on the Principle of Population* and *An Essay on Population*, 2 vols.(London: J.M. Dent, 1914), vii.
[24] K. Drakos and A.M. Kutan, "Regional Effects of Terrorism on Tourism in Three Mediterranean Countries," *The J. of Conflict Resolution* 47, no. 5 (Oct 2003), 621-641.
[25] K. Drakos and A. Gofas, "In Search of the Average Transnational Terrorist Attack Venue," *Defense and Peace Economics* 17, no. 2 (April 2006), 73-93.
[26] Epistemic is defined as "of or relating to knowledge or knowing." Referenced from the Merriam-Webster Dictionary website, www.merriam-webster.com/dictionary/epistemic, accessed on 12 April 2008.
[27] U.S. Office of the Chairman of the Joint Chiefs of Staff, *Joint Operation Planning*, Joint Publication (JP) 5-0 (Washington, DC: CJCS, Dec 2006), I-16 to 19.
[28] Interview with LTC Steve Brown.
[29] Gurr, *People Versus States: Minorities at Risk in the New Century*. 43, 225.
[30] In the late 1700s, Malthus predicted catastrophe. He theorized the British population boom and apparent lack of complementary agricultural growth would fuel disaster.
[31] Interviews with two Argentine foreign nationals, conducted on 20 April 2008. To inhibit potential reprisal, their names will remain anonymous.

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